

IN THE CLAIMS

Please amend claims 27-32 and 36-41, and add new claims 44-49, as follows:

1. (Withdrawn) An article of apparel comprising an insulating component incorporated into the article of apparel, wherein the improvement comprises an insulating component comprising an insulating structure comprising a) a gas impermeable envelope and b) a porous material contained within the envelope, wherein the insulating structure has a thermal conductivity of less than or equal to 25mW/m K at 25°C.
2. (Withdrawn) The article of apparel of claim 1, wherein apparel comprises headwear, footwear or handwear.
3. (Withdrawn) The article of apparel of claim 1, wherein apparel comprises a boot.
4. (Withdrawn) The article of apparel of claim 1, wherein the insulating structure has a thickness of 10 mm or less.
5. (Withdrawn) The article of apparel of claim 1, wherein the insulating structure has a thickness of 3 mm or less.
6. (Withdrawn) The article of apparel of claim 1, wherein the insulating structure has a thermal conductivity less than 20 mW/m K.
7. (Withdrawn) The article of apparel of claim 1, wherein the insulating structure has a thermal conductivity between about 15-18 mW/m K.
8. (Withdrawn) The article of apparel of claim 1, wherein the envelope is at least partially evacuated.
9. (Withdrawn) The article of apparel of claim 1, wherein the porous material has a pore size of 100 nm or less.

10. (Withdrawn) The article of apparel of claim 1, wherein the porous material has a pore size of 20nm or less.
11. (Withdrawn) The article of apparel of claim 1, wherein the porous material is selected from metal oxides.
12. (Withdrawn) The article of apparel of claim 1, wherein the porous material is fumed silica.
13. (Withdrawn) The article of apparel of claim 1, wherein the porous material is an aerogel.
14. (Withdrawn) The article of apparel of claim 13, wherein the aerogel comprises silica.
15. (Withdrawn) The article of apparel of claim 1, wherein the insulating structure further comprises a binder.
16. (Withdrawn) The article of apparel of claim 1, wherein the insulating structure further comprises carbon or titanium dioxide.
17. (Withdrawn) The article of apparel of claim 1, wherein the envelope comprises a gas having a molecular weight greater than that of air.
18. (Withdrawn) A method of forming an insulated apparel article comprising providing an insulating component; and incorporating an insulating component into the article of apparel, wherein the insulating component comprises an insulating structure comprising a) a gas impermeable envelope and b) a porous material contained within the envelope, wherein the insulating structure has a thermal conductivity of less than or equal to 25 mW/m K at about 25°C.
19. (Withdrawn) The method of claim 18, wherein the insulated apparel article has inner and outer textile layers and the method further comprises incorporating the insulating component between the inner and outer layers.

20. (Withdrawn) The method of claim 18, wherein the insulated apparel article has inner and outer textile layers and the method further comprises affixing the insulating component to the inner textile layer.
21. (Withdrawn) The method of claim 18, wherein the insulated apparel article has inner and outer textile layers and the method further comprises affixing the insulating component to the outer textile layer.
22. (Withdrawn) A method of increasing the thermal insulation value of an article of apparel without substantially changing the fit of the article comprising providing an article of apparel, providing a insulating component comprising a gas permeable envelope and a porous material contained within the envelope, wherein the insulating structure has a thickness of about 3mm or less and comprises a thermal conductivity of less than or equal to 25 mW/m K at 25°C, and incorporating the insulating component into the article of apparel.
23. (Withdrawn) The method of claim 22, wherein the article of apparel has a thermal insulation value of about 0.3 to 1.7 m²K/W.
24. (Withdrawn) The method of claim 22, wherein the insulating structure has a thickness of about 2mm or less.
25. (Withdrawn) A method of insulating a person from environmental conditions comprising providing an insulated article of apparel, and positioning the insulated article of apparel between the environment and the person, wherein the insulated article of apparel comprises an insulating component comprising an insulating structure having a) a gas impermeable material and b) a porous material contained within the envelope, the insulating structure having a thermal conductivity of less than or equal to 25 mW/m K at 25°C.
26. (Withdrawn) The method of claim 25, wherein the environment is a low temperature environment.

27. (Currently amended) A method of insulating a boot comprising providing a boot having a toe cap area, a boot upper and a boot sole;
providing a mixture comprising a porous material selected from fumed metal oxide and aerogel;
compressing the mixture to form a structure material,
placing the structure material in a gas impermeable envelope,
evacuating air from the envelope at reduced pressure, and sealing the envelope, to form a flat insulating structure, the flat insulating structure comprising more than one section of structure material within the envelope to provide flexibility for shaping;
shaping the flat insulating structure into a shaped insulating structure; and
~~providing an insulating component comprising an the shaped insulating structure to at least one of the toe cap area, the boot upper and the boot sole,~~ the substantially incompressible shaped insulating structure comprising
a) ~~a gas impermeable envelope and~~
b) ~~a porous material contained within the envelope,~~
having a thermal conductivity of less than or equal to 25 mW/m K at 25°C,
~~to at least one of the toe cap area, the boot upper and the boot sole.~~
28. (Currently amended) The method of claim 27, wherein the boot comprises inner and outer boot layers and the shaped insulating structure component is positioned between the layers.
29. (Currently amended) The method of claim 27, wherein the shaped insulating structure component is affixed to an inner boot layer and adjacent a wearer of the boot.
30. (Currently amended) A method of insulating a boot comprising providing a boot having a toe cap area, a boot upper and a boot sole;
providing a mixture comprising a porous material selected from fumed metal oxide and aerogel;

compressing the mixture to form a structure material,
placing the structure material in a gas impermeable envelope,
evacuating and sealing the envelope at reduced pressure, to form a
flat insulating structure, the flat insulating structure comprising more than
one section of structure material within the envelope to provide flexibility
for shaping;

shaping the flat insulating structure into a form of a shaped
insulating structure; and

providing the shaped an insulating component comprising a
substantially incompressible insulating structure to at least one of the toe
cap area, the boot upper and the boot sole, the substantially
incompressible shaped insulating structure comprising

a) a gas impermeable envelope and

b) a porous material contained within the envelope;

the substantially incompressible insulating structure having a thermal
conductivity of less than or equal to 25 mW/m K at 25°C.

31. (Currently amended) The method of claim 30, wherein the substantially incompressible flat insulating structure has a loss of thickness of 20% or less at a pressure of 1 atmosphere.
32. (Currently amended) The method of claim 30, wherein the substantially incompressible flat insulating structure has a loss of thickness of 10% or less at a pressure of 1 atmosphere.
33. (Previously presented) The method of claim 30, wherein the porous material is a fumed metal oxide.
34. (Previously presented) The method of claim 30, wherein the porous material is fumed silica.
35. (Previously presented) The method of claim 30, wherein the porous material is fumed alumina.
36. (Currently amended) The method of claim 27, wherein the flat insulating structure is shaped into a shaped insulating structure in the form of a toe

~~cap method further comprises at least partially evacuating the gas impermeable envelope of air to a reduced pressure and sealing the gas impermeable envelope to maintain the reduced pressure.~~

37. (Currently amended) The method of claim 30, wherein the flat insulating structure is shaped into a shaped insulating structure in the form of a toe cap ~~method further comprises at least partially evacuating the gas impermeable envelope of air to a reduced pressure and sealing the gas impermeable envelope to maintain the reduced pressure.~~
38. (Currently amended) The method of claim ~~27~~36, wherein the gas impermeable envelope is under a vacuum pressure of up to about 10,000Pa.
39. (Currently amended) The method of claim ~~27~~36, wherein the gas impermeable envelope is under a vacuum pressure of about 1,000Pa or less.
40. (Currently amended) The method of claim ~~30~~37, wherein the gas impermeable envelope is under a vacuum pressure of up to about 10,000Pa.
41. (Currently amended) The method of claim ~~30~~37, wherein the gas impermeable envelope is under a vacuum pressure of about 1,000Pa or less.
42. (Previously presented) The method of claim 30, wherein the boot comprises inner and outer boot layers, and the method further comprises positioning the insulating component between the inner and outer boot layers.
43. (Previously presented) The method of claim 30, wherein boot comprises an inner boot layer, and the method further comprises affixing the insulating component to the inner boot layer adjacent a wearer of the boot.

Please add new claims 44-49 as follows:

- 44. (New) The method of claim 27, wherein the method comprises forming a flat insulating structure having a thickness of less than 3mm.
- 45. (New) The method of claim 27, wherein the method comprises forming a flat insulating structure having a thickness of 2mm or less.
- 46. (New) The method of claim 30, wherein the method comprises forming a flat insulating structure having a thickness of less than 3mm.
- 47. (New) The method of claim 30, wherein the method comprises forming a flat insulating structure having a thickness of 2mm or less.
- 48. (New). The method of claim 27, wherein the method further comprising sealing the envelope between one or more sections of structure material.
- 49. (New). The method of claim 48, wherein the method of sealing between one or more sections of structure material comprises providing flexibility for shaping the flat insulating structure into a shaped structure.